REMARKS

In the outstanding Office Action, the Examiner has rejected Claims 45-59 and 61, and allowed Claim 60. Claims 45, 57-59, and 61 have been amended, and Claim 62 has been added. No new matter has been added. Thus, Claims 45-62 are presented for further examination. Reconsideration and allowance of all Claims 45-62 in light of the present remarks is respectfully requested.

Discussion of Claim Rejections Under 35 U.S.C. § 112

The Examiner has rejected Claims 45-56 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In regard to Claim 45, the Examiner stated that "it is not clear that the storage system receive the radio resource signalling reports from mobile stations or the plurality of base stations ... ." Claim 45 has been amended to recite that "the cellular communications system is arranged to route the radio resource signaling reports from the mobile stations via the plurality of base stations to the storage system ... ." Accordingly, Applicant respectfully requests the rejection of Claims 45-56 under 35 U.S.C. § 112, second paragraph, be withdrawn in view of this non-narrowing clarification.

Discussion of Claim Rejections Under 35 U.S.C. § 102(e)

The Examiner has rejected Claims 45-50, 53-55, 57-59, and 61 under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 5,845,211 to Roach, Jr.

In regard to Claim 45, the Examiner stated that "Roach, Jr. (figure 1) discloses a cellular communication system comprising: a plurality of base stations configured to conduct communications with mobile stations via a radio interface, wherein the mobile stations are used by subscribers; a storage system arranged to receive and store radio resource signalling reports generated by mobile stations when in connected mode in the cellular communications system (column 19, lines 56-62), wherein the cellular communications system is arranged to route the radio resource signalling reports from the plurality of base stations to the storage system (column 18, line 59 – column 19, line 12), and wherein the storage system is configured to store data associated with subscribers (column 19, lines 13-25); and a service node ... ." The Examiner further stated that the "service node" disclosed by Roach is "arranged to: receive data from the

storage system for use in performing handover decisions; process the received data so as to allocate a radio resource to the mobile station, wherein the radio resource is allocated at least in part on the basis of the data associated with the subscriber; and transmit data identifying the allocated radio resource to at least one of the base stations (column 19, lines 26-55; figures 7A-B)."

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053.

The cellular communications system of amended Claim 45 comprises "a plurality of base stations configured to conduct communications with mobile stations via a radio interface, wherein the mobile stations are used by subscribers; a storage system arranged to receive and store first data derived from radio resource signalling reports generated by mobile stations when in connected mode in the cellular communications system, wherein the cellular communications system is arranged to route the radio resource signalling reports from the mobile stations via the plurality of base stations to the storage system, and wherein the storage system is configured to store second data associated with the subscribers; and a service node ... ." The service node is arranged to "receive data from the storage system for use in performing handover decisions, wherein the received data includes at least a portion of the first data and at least a portion of the second data; process the received data so as to allocate a radio resource to the mobile station, wherein the radio resource is allocated by selecting, from base stations for which radio resource measurements have been received from the mobile station, a base station for handover at least in part on the basis of both the first data and the second data; and transmit data identifying the allocated radio resource to at least one of the base stations."

Roach describes two methods of performing a call hand off in a wireless digital network. The wireless digital network includes Intelligent Cell Sites (ICS's), which are coupled or built into base stations and independently handle call hand offs between the base stations. *Col. 3, lines 56-64; Figure 1.* The wireless digital network further includes a Central Site Controller (CSC) which provides centralized database services, such as customer profile database storage. *Col. 3, lines 64-67.* An ICS communicates with the CSC to obtain customer profile information. *Col. 17, lines 17-22.*

In the first method of performing a call hand off described in Roach, a base station senses the signal deterioration between itself and a mobile station, and generates and sends a hand off request to the current ICS handling the call. *Col. 19, lines 2-5.* The current ICS sends a plurality of measure requests to neighboring ICS's, wherein the measure requests instructs the ICS's to have their corresponding base stations take a power reading from surrounding cells and report back to the current ICS. *Col. 19, lines 5-12.* The surrounding ICS's to which the measure requests are sent may be chosen based on a call plan ID, where the call plan ID may be used to generate a list of hand off candidates. *Col. 19, lines 15-22.*

In response to the measure requests, multiple measure responses are generated by a plurality of base stations and passed over the network to the current ICS. *Col. 19, lines 26-32.* Based on the measure responses generated by the base stations, the current ICS chooses a destination ICS and sends a hand off allocation request to the chosen destination ICS. *Col. 19, lines 32-55.*

Thus, in the first method of performing a call hand off, Roach's wireless digital network first uses a call plan ID to determine a list of base stations (or ICS's) to which a measurement request should be sent, and a base station (destination ICS) for handover is selected from the list of base stations based on only the measure responses generated by the base stations. In this first call hand off method described in Roach, the current ICS does not "allocate a radio resource to the mobile station, wherein the radio resource is allocated by selecting, from base stations for which radio resource measurements have been received from the mobile station, a base station for handover at least in part on the basis of both the first data and the second data," wherein the first data is "derived from the radio resource signaling reports generated by mobile stations", and wherein the second data is "associated with subscribers" as recited in amended Claim 45. Processing the data derived from radio resource measurement data and the data associated with the subscribers together to make a handover decision provides for an intelligent and proactive choice of the target base station. This provides a significant performance improvement over existing systems.

The second, alternative call hand off method discussed in Roach is referred to as a Mobile Assisted Hand Off (MAHO) method, wherein the mobile unit takes signal strength measurements on the channels of surrounding ICS's or base stations and reports the measurements to the current ICS. *Col. 19, lines 56-62*; *Figure 1.* The current ICS determines

which of the surrounding ICS's to choose from for hand off based on the constantly updated signal strength measurements. *Col. 19, line 66 - col. 20, line 7.*

In the MAHO method, however, the current ICS is not arranged to "process [] received data so as to allocate a radio resource to the mobile station, wherein the radio resource is allocated by selecting, from base stations for which radio resource measurements have been received from the mobile station, a base station for handover at least in part on the basis of both [] first data and [] second data," wherein the second data is "associated with the subscribers" as recited in amended Claim 45.

Furthermore, it is not clear which elements of Roach's wireless digital network the Examiner is referring to as corresponding to a storage system and a service node, as recited in Claim 45. Specifically, if the Examiner is referring to an ICS as corresponding to the storage system recited in Claim 45, then it is not clear what element of Roach's wireless digital network corresponds to the service node recited in Claim 45, wherein the service node is arranged to receive data from the storage system and process the received data so as to allocate a radio resource to a mobile station. Conversely, if the Examiner is referring to an ICS as corresponding to the service node recited in Claim 45, then it is not clear what element of Roach's wireless digital network corresponds to "a storage system arranged to receive and store first data derived from [] radio resource measurement data", wherein the storage system is further configured to "store second data associated with [] subscribers" as recited in amended Claim 45.

As Roach fails to describe, either expressly or inherently, every element as set forth in amended Claim 45, Applicant respectfully submits amended Claim 45 for further review as patentable subject matter.

In regard to Claim 48, Roach fails to describe, either expressly or inherently, a service node "arranged to request data from the storage system in response to receipt of data from one of the mobile stations." As discussed with respect to Claim 45, it is not clear what element of Roach's wireless digital network the Examiner is arguing corresponds to the service node and storage system recited in the claims. In the event the Examiner is referring to the current ICS as corresponding to the service node recited in Claim 45, the current ICS does not request data from a storage system in response to receipt of data from one of the mobile stations as recited in Claim 48.

In regard to Claims 49 and 50, Roach's wireless digital network does not transmit a resource measurement report request to at least one of the mobile stations. Arguably, Roach teaches that measurement report requests are transmitted to base stations and not mobile stations. Alternatively, mobile units take signal strength measurements whenever an empty time slot occurs (MAHO) and not based on specific requests. Furthermore, using MAHO eliminates the need for generating measurement requests and receiving measurement responses. *Col. 20, lines 2-6.*

In regard to Claims 54 and 55, Roach fails to describe, either expressly or inherently, "radio resource measurement reports compris[ing] data specifying the current requirements of the mobile station", wherein the radio resource measurement reports are generated by mobile stations.

Because Claims 46-50, and 53-55 depend from Claim 45, pursuant to 35 U.S.C. § 112, ¶ 4, they incorporate by reference all the limitations of the claim to which they refer. It is therefore submitted that these claims are in condition for allowance at least for the reasons expressed with respect to the independent claim, and for their other features.

As amended Claims 57 and 61 recite limitations similar to those recited in Claim 45, the arguments with respect to Claim 45 similarly apply to Claims 57 and 61, and thus, Claims 57 and 61 are respectfully submitted for further review as patentable subject matter.

Because Claims 58 and 59 depend from Claim 57, pursuant to 35 U.S.C. § 112, ¶ 4, they incorporate by reference all the limitations of the claim to which they refer. It is therefore submitted that these claims are in condition for allowance at least for the reasons expressed with respect to the independent claim, and for their other features.

Discussion of Claim Rejections Under 35 U.S.C. § 103(a)

The Examiner has rejected Claims 51 and 52 under 35 U.S.C. § 103(a) as being unpatentable over Roach in view of U.S. Patent No. 5,960,355 to Ekman, et al., and Claim 56 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Roach.

Because Claims 51, 52, and 56 depend from Claim 45, pursuant to 35 U.S.C. § 112, ¶ 4, they incorporate by reference all the limitations of the claim to which they refer. It is therefore submitted that these claims are in condition for allowance at least for the reasons expressed with respect to the independent claim, and for their other features.

New Claim:

Claim 62 has been added to take advantage of Applicant's rights to protect the invention. The claim is similar in structure to Claim 45, but recites additional details. For at least the reasons expressed above, and for its other features, Applicant respectfully submits that the claim is patentable over Roach and the other art of record.

Conclusion

Applicant has endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. Accordingly, amendments to the claims for patentability purposes pursuant to statutory sections 102, and/or 103, the reasons therefor, and arguments in support of the patentability of the pending claim set are presented above. In light of these amendments and remarks, reconsideration and withdrawal of the outstanding rejections is respectfully requested.

Any claim amendments which are not specifically discussed in the above remarks are not made for patentability purposes, and it is believed that the claims would satisfy the statutory requirements for patentability without the entry of such amendments. Rather, these amendments have only been made to increase claim readability, to improve grammar, and to reduce the time and effort required of those in the art to clearly understand the scope of the claim language. Furthermore, any new claims presented above are of course intended to avoid the prior art, but are not intended as replacements or substitutes of any cancelled claims. They are simply additional specific statements of inventive concepts described in the application as originally filed.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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